

Refine Search

Search Results -

Terms	Documents
L9 AND CATALOG\$	0

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Search History

DATE: Tuesday, May 18, 2004 [Printable Copy](#) [Create Case](#)

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side by side			result set	
<i>DB=EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=OR</i>				
<u>L10</u>	L9 AND CATALOG\$		0	<u>L10</u>
<u>L9</u>	@PD<=20010323 AND ("CIRCUIT CITY" OR "BEST BUY")		11	<u>L9</u>
<i>DB=USPT; THES=ASSIGNEE; PLUR=YES; OP=OR</i>				
<u>L8</u>	L5 NOT L6		1	<u>L8</u>
<u>L7</u>	L5 NOT L4		0	<u>L7</u>
<u>L6</u>	L5 AND (ORDER\$ WITH (FORM\$ OR STATEMENT))		4	<u>L6</u>
<u>L5</u>	L4 AND CATALOG\$		5	<u>L5</u>
<u>L4</u>	L3 AND 705?..CCLS.		6	<u>L4</u>
<u>L3</u>	@AD<=20010323 AND ("CIRCUIT CITY" OR "BEST BUY")		87	<u>L3</u>
<u>L2</u>	L1 AND ("CIRCUIT CITY" OR "BEST BUY")		0	<u>L2</u>
<u>L1</u>	5574870.PN. OR 5451998.PN. OR 6146676.PN. OR 6542905.PN. OR 6081798.PN. OR 6245370.PN.		6	<u>L1</u>

END OF SEARCH HISTORY

[First Hit](#) [Fwd Refs](#) [Generate Collection](#) [Print](#)

L6: Entry 1 of 4

File: USPT

Feb 5, 2002

DOCUMENT-IDENTIFIER: US 6345256 B1

TITLE: Automated method and apparatus to package digital content for electronic distribution using the identity of the source content

Application Filing Date (1):

19981201

Brief Summary Text (9):

Another reason owners of digital content have been slow to embrace electronic distribution is their desire to maintain and foster existing channels of distribution. Most content owners sell through retailers. In the music market these U.S. retailers include Tower Records, Peaches, Blockbuster, Circuit City and others. Many of these retailers have Web sites that allow Internet users to make selections over the Internet and have selections mailed to the end-user. Example music Web sites include @tower, Music Boulevard and Columbia House. The use of electronic distribution can remove the ability of the retail stores from differentiating themselves from each other and differentiate themselves from the content owners, especially on the Web. Therefore a need exists to provide retailers of electronic content such as pictures, games, music, programs and videos a way to differentiate themselves from each other and the content owners when selling music through electronic distribution.

Detailed Description Text (39):G. Order Secure Container 650 FormatDetailed Description Text (373):G. Order Secure Container 650 FormatDetailed Description Text (875):

A hybrid model can also be defined such that an Electronic Digital Content Store(s) 103 provides a digital content service organized in such a way that it can offer both a web distribution interface via an Internet connection as well as a higher bandwidth satellite or cable distribution interface via a broadcast service, with a great deal of commonality to the site design. If the IRD backchannel serial interface were connected to the web, and the IRD supported web navigation, the End-User(s) could navigate the digital content service in the usual way via the backchannel Internet interface, previewing and selecting Content 113 to purchase. The user can select high quality downloadable Content 113, purchase these selections, and receive the required License SC(s) 660 all via an Internet connection and then request delivery of the Content 113 (Content SC(s) 630) over the higher bandwidth broadcast interface. The Web service can indicate which Content 113 would be available for download in this manner based on the broadcast schedule or could build the broadcast streams based totally on purchased Content 113. This method would allow a Web based digital content service to contract with a broadcast facility to deliver high quality Content 113 to users equipped with the proper equipment making a limited number of specific Content 113 (e.g. songs or CDS) available daily in this manner and the entire catalog available for download in lower quality via the web interface.

Current US Original Classification (1):

705/1

[First Hit](#) [Fwd Refs](#) [Generate Collection](#) [Print](#)

L6: Entry 1 of 4

File: USPT

Feb 5, 2002

US-PAT-NO: 6345256

DOCUMENT-IDENTIFIER: US 6345256 B1

TITLE: Automated method and apparatus to package digital content for electronic distribution using the identity of the source content

DATE-ISSUED: February 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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Kindell; Craig	Delray Beach	FL		
Gong; Qing	West Palm Beach	FL		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
International Business Machines Corporation	Armonk	NY			02	

APPL-NO: 09/ 203306 [PALM]

DATE FILED: December 1, 1998

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS This is a divisional of application Ser. No 09/177,096, filed Oct. 22, 1998, which is a continuation-in-part of application Ser. No. 09/133,519, filed Aug. 13, 1998, now U.S. Pat. No. 6,226,618. The entire disclosure of prior application Ser. No. 09/177,096 is herein incorporated by reference. ATTORNEY APPLICATION DOC. NO. SERIAL NO. TITLE OF THE INVENTION INVENTOR (S) SE9-98-006 Secure Electronic Content Kenneth L. Milsted Management George Gregory Gruse Marco M. Hurtado Edgar Downs Cesar Medina SE9-98-007 Multimedia Player Toolkit George Gregory Gruse John J. Dorak, Jr. Kenneth L. Milsted SE9-98-008 Multimedia Content Creation System Kenneth L. Milsted Qing Gong Edgar Downs SE9-98-010 Key Management System for End- Jeffrey B. Lotspeich User Digital Player Marco M. Hurtado George Gregory Gruse Kenneth L. Milsted SE9-98-011 Multi-media player for an Electronic Marco M. Hurtado Content Delivery System George Gregory Gruse Edgar Downs Kenneth L. Milsted SE9-98-013 A method to identify CD content Kenneth L. Milsted Craig Kindell Qing Gong SE9-98-014 Toolkit for delivering electronic Richard Spagna content from an Online store. Kenneth L. Milsted David P. Lybrand Edgar Downs SE9-98-015 A method and apparatus to Kenneth L. Milsted automatically create encode digital Kha Kinh Nguyen content Qing Gong SE9-98-016 A method and apparatus to indicate an Kenneth L. Milsted encoding rate for digital content Qing Gong

INT-CL: [07] G06 F 17/00

US-CL-ISSUED: 705/1

US-CL-CURRENT: 705/1

FIELD-OF-SEARCH: 705/1, 705/26, 705/27, 705/64, 705/67, 705/51, 369/30, 369/34, 369/36, 369/38, 369/58, 369/32, 369/94, 283/113, 283/72, 283/86, 283/94, 711/4, 711/202, 711/112, 704/500, 704/504, 434/307, 434/318, 386/106

PRIOR-ART-DISCLOSED:

U. S. PATENT DOCUMENTS

Search Selected

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Clear

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> <u>4200770</u>	April 1980	Hellman et al.	
<input type="checkbox"/> <u>4218582</u>	August 1980	Hellman et al.	
<input type="checkbox"/> <u>4272810</u>	June 1981	Gates et al.	
<input type="checkbox"/> <u>4405829</u>	September 1983	Rivest et al.	
<input type="checkbox"/> <u>4424414</u>	January 1984	Hellman et al.	
<input type="checkbox"/> <u>4463387</u>	July 1984	Hashimoto et al.	
<input type="checkbox"/> <u>4528643</u>	July 1985	Freeny, Jr.	
<input type="checkbox"/> <u>4731840</u>	March 1988	Mniszewski et al.	
<input type="checkbox"/> <u>4757534</u>	July 1988	Matyas et al.	
<input type="checkbox"/> <u>4782529</u>	November 1988	Shima	
<input type="checkbox"/> <u>4803725</u>	February 1989	Horne et al.	
<input type="checkbox"/> <u>4809327</u>	February 1989	Shima	
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<input type="checkbox"/> <u>4868877</u>	September 1989	Fischer	
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<input type="checkbox"/>	<u>5276901</u>	January 1994	Howell et al.	
<input type="checkbox"/>	<u>5315658</u>	May 1994	Micali	
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<input type="checkbox"/>	<u>5412717</u>	May 1995	Fischer	
<input type="checkbox"/>	<u>5420927</u>	May 1995	Micali	
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<input type="checkbox"/>	<u>5592664</u>	January 1997	Starkey	
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FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
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"Authentication method for electronic commerce transactions in Internet . . . ", Conboy, G. et al. Derwent-ACC-No.:2000-364999 Derwent Week 200037, May 2000.*
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S. Kent, "Privacy Enhancement or Internet Electronic Mail: Part II: Certificate-Based Key Management". RFC 1422, Feb., 1993, pp. 1-28.
D. Balenson, "Private Enhancement for Internet Electronic Mail: Part III: Algorithms, Modes, and Identifiers", RFC 1423, Feb. 1993, pp. 1-13.
B. Kaliski, "Privacy Enhancement for Internet Electronic Mail: Part IV: Key Certification and Related Services", RFC 1424, Feb. 1993, pp. 1-8.

ART-UNIT: 2161

PRIMARY-EXAMINER: Trammell; James P.

ASSISTANT-EXAMINER: Elisca; Pierre Eddy

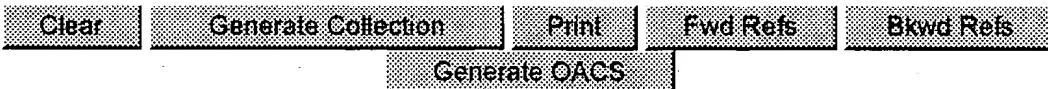
ATTY-AGENT-FIRM: Meyers; Steven J. Shofi; David M. Fleit, Kain, Gibbons, Gutman & Bongini P.L.

ABSTRACT:

A method to automatically retrieve data associated with content. An identifier is read that is stored on electronic readable medium storing content. The identifier is used to search a database for data associated with the content. Data that is associated with the content is retrieved as guided by the database. And the data retrieved is used to create a version of the content for electronic distribution. In accordance with another aspect of the invention, a computer readable medium is described to carry out the above method.

24 Claims, 21 Drawing figures

Hit List



Search Results - Record(s) 1 through 10 of 11 returned.

1. Document ID: JP 11294857 A

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2. Document ID: JP 11083530 A

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3. Document ID: JP 10271651 A

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4. Document ID: JP 10094696 A

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5. Document ID: JP 10083495 A

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6. Document ID: EP 865155 A1

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7. Document ID: CN 1168474 A

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8. Document ID: JP 07217926 A

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9. Document ID: US 4528638 A

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10. Document ID: CS 8104439 A

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*2nd ref.*First Hit Fwd Refs

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 Generate Collection **Print**

L5: Entry 1 of 1

File: USPT

Jun 30, 1998

DOCUMENT-IDENTIFIER: US 5774870 A

TITLE: Fully integrated, on-line interactive frequency and award redemption program

Abstract Text (1):

An fully integrated on-line frequency award program is disclosed. A user may access the program on-line and may brows a product catalog for shopping. The user may electronically place an order, upon which the program automatically checks the user's credit and electronically issues a purchase order to the supplying company. The program also calculates award points, updates the award account of enrolled users, and communicates that number of awarded points to the user. Enrolled users may browse through an award catalog and electronically redeem an amount of awarded points towards an award. The program then electronically places an award redeeming order with the fulfillment house and updates the user's award account.

Brief Summary Text (11):

The disclosed invention is also advantageous in that it provides an on-line access to product information, product purchases using an on-line electronic order form, award catalogs, and award redemption using an on-line electronic redemption form.

Brief Summary Text (17):

The above and other advantages are provided by the disclosed invention which includes provisions for access over the internet. Upon gaining of an access, the customer is able to browse through a merchandise catalog, an award catalog, view the bonus points available for redemption in the customer's award bonus account, and get information about the products for purchase, the program, and the customer's account. The program also enables the customer to order merchandise on-line, order prizes on-line and redeem awarded points on-line. Accordingly, the selection of available prizes is expanded by the merchants who join the program, and the bonus award is made instantly redeemable.

Detailed Description Text (4):

In FIG. 1, PRODUCT A HOMEPAGE, 100A, is a homepage of a particular type of products. For example, PRODUCT A HOMEPAGE, 100A, may be a homepage for men's shirts. In such an example, the PRODUCT A HOMEPAGE, 100A, may include icons to allow the user to select information regarding, for example, different brands, price ranges, types (dress shirts, sport shirts, etc.), and thereafter review the products available relating to the particular selection in a manner much similar to reviewing a printed product catalogue.

Detailed Description Text (12):

With continued reference to FIG. 2, selection menu 110 provides the user with the following options: proceed to PROGRAM HOMEPAGE 300, proceed to PRODUCT i HOMEPAGE, 100i, (i being any of the number of available products homepage) or proceed to ORDER FORM 130. Alternatively, the user may change the list of products by choosing the appropriate browsing option or using the search engine to create a new list of products (not shown). Upon selection of PRODUCT i HOMEPAGE, 100i, the program reverts to step Ai, i.e., to SELECTION MENU 110. Upon selection of PROGRAM HOMEPAGE 300, the program proceeds to step B shown in FIG. 3, which will be described later.

Detailed Description Text (13):

If the user decides to purchase an item, the program proceeds to ORDER FORM 130 and the user is prompted to electronically provide entries to the appropriate queries in the order form. Thereupon, a communication link is established and the program performs a CREDIT CHECK routine, 140, to verify the availability of funds for purchase.

Detailed Description Text (15):

A related feature of the present invention is that when the user enters ORDER FORM 130 from a particular product homepage describing a particular product, it is very likely that the user wishes to purchase that particular product. Therefore, the relevant information regarding the product can be read from the product's homepage and pasted at the appropriate positions in the ORDER FORM 130. Thus, the user will only have to enter information specific to options such as size, color, quantity, etc.

Detailed Description Text (16):

At step 130, certain predetermined information is striped off from the completed order form and sent to the credit check 140. Such information may be, for example, credit card number and dollar amount. This is because much of the information included in the order form is irrelevant to the person's credit, and the credit institution may be unable to handle the extra information. Furthermore, sending the least amount of information would expedite the credit check.

Detailed Description Text (17):

If the CREDIT CHECK routine 140 result is negative, in step 150N the user is provided with a message to that effect. The program may then prompt the user to enter another credit card number or to exit. However, if the CREDIT CHECK routine 140 result is positive, in step 150P the program proceeds to establish a communication link and places a PRODUCT ORDER, 160, with the product company. As shown in FIG. 2, in the preferred embodiment PRODUCT ORDER 160 is placed by electronic means such as e-mail or facsimile so as to render the program of the present invention fully integrated in an interactive on-line system; however, the ORDER FORM 160 can alternatively be place by conventional means by simply printing and mailing the ORDER FORM 160 to the product company.

Detailed Description Text (18):

As shown in FIG. 2, while the communication link is established to the product company, the program also proceeds to the FREQUENCY DATABASE, 170. In FREQUENCY DATABASE 170 the user's information is checked against the database of enrolled users. If it is determined that the user is an enrolled user, 180E, the program proceeds to step 190 to calculate the award points according to a preprogrammed formula. Thereafter the program proceeds to add the points to the enrolled user's account, 200, and display the account information and the added points to the user, 210. From this point, the program may return to ORDER FORM 130, to step Ai (not shown), to PROGRAM HOMEPAGE 300 to view the awards catalog (not shown) or proceed to SELECTION MENU, 40, (not shown).

Detailed Description Text (21):

On the other hand, if in step 170 it was determined that the user is a new, unenrolled user, 180N, the program proceeds to step 220 to calculate the award points according to the preprogrammed formula. Thereafter, the program proceeds to step 130, wherein a message is sent to the user identifying how many points he will earn should he enroll in the program. Step 230 also inquires whether the user is interested in joining the program. Accordingly, step 230 may be in a form of a message such as, for example, "By enrolling in the incentive program you will earn [X] points for purchasing the [insert the item purchased]. These points may be redeemed toward exciting awards. Are you interested in enrolling or viewing the

award catalog? Y/N."

Detailed Description Text (22):

If in step 240 the user selects NO in response to step 230, the program proceeds to ORDER FORM 130 or to process Ai (not shown), which proceeds to SELECTION MENU 110. Alternatively, after receiving NO in step 240 process may continue to SELECTION MENU 40. At step 240, if it is determined that the user would like to sign up with the award program (join), the program proceeds to step 250 which is a sign up routine. Any conventional sign up routine may be used at this stage of processing. At the end of the sign up routine, the program can return to point Ai, or to the purchase order form. The user may sign off from any of these locations.

Detailed Description Text (24):

At step 600 the user is prompted either to enter a credit card account number, 610, or to indicate that he wishes to use the same account used to access the internet or to purchase an item, in which case the account number is obtained from within the program, 620. (It should be recognized that the user's name can also be obtained internally from the on-line access program.) At 630 the user is prompted to enter a personal identification code, which can generally be a four letter/number code. At 640 the user is prompted to enter his choice of mailing address--the address indicated on the order form, 660, or a different address, 650. (A different address can be entered in the order form, for example, when purchasing a present to be mailed to the recipient). At 670 the program creates a new account in the database.

Detailed Description Text (30):

SELECTION MENU 310 allows the user to exit the program, go to PRODUCT Ai HOMEPAGE 100A (from which program would proceed to Ai in FIG. 2), go to the BROWSING OPTION 60, learn about the award program by selecting ABOUT AWARD PROGRAM 320, apply for membership by selecting MEMBERSHIP APPLICATION 250 (see, FIGS. 2 and 5), review the user's account by selecting the FREQUENCY DATA BASE 340, or review the awards catalog by selecting AWARD CATALOG HOMEPAGE 400 (shown in FIG. 4).

Detailed Description Text (33):

If the user selects AWARD CATALOG HOMEPAGE 400 processing proceeds to the routine shown in FIG. 4. In the preferred embodiment several options are available for viewing the award catalog. This is represented by the SELECTION MENU 410, although those skilled in the art would recognize that other processing can be provided for viewing the award catalog. As shown in FIG. 4, at least two options are made available by SELECTION MENU 410: SHOW QUALIFIED AWARDS 420 (shown continuing at branch E) and VIEWING OPTIONS 450. QUALIFIED AWARDS 420 allows the user a quick access to viewing all the awards the user is qualified for. VIEWING OPTIONS 450 allows the user to view the awards according to the order selected by the user.

Detailed Description Text (34):

If the user selects QUALIFIED AWARDS 420, the frequency database is accessed to determine the award point, 425. thereafter, the entire award catalog is scanned and a qualified awards database is created for the particular number of award points read from the user's account, 430. Thereafter, the first page of the first award is displayed, 435, and the user can browse through the catalog created in step 430. Alternatively, the user can select QUALIFIED AWARD OPTION 440 for different options of arranging and viewing the qualified awards catalog. These options can be, for example, by alphabetical order, by brands, by product, etc.

Detailed Description Text (35):

While the above method of displaying the qualified awards is workable, it may take too much time to scan all the awards in order to "custom" build a qualified awards catalog. Therefore, other alternatives may be used for creating the qualified award catalog. According to the preferred alternative, point levels are defined. For example, point level 1 can include all awards of value up to 500 points, point

level 2, up to 1000 points, etc. When the user's account is read at 425, the highest point level the user is qualified for is determined. At this point a message may be displayed such as "You are qualified for point level 3 and have an additional 350 in your account. To qualify for point level 4 you will need 150 additional points".

Detailed Description Text (36):

If memory size is not a problem, different libraries can be stored, each of which corresponds to a certain point level. Thus, for example, award library 1 can include all the awards which can be redeemed by a number of points defined by point level 1. In the above example, award library 1 will include all awards worth up to 500 points. Thus, when the point level of the user is determined, all the awards in the corresponding library are made accessible as qualified awards. This allow for fast access, since the step 430 of creating the qualified catalog is skipped. However, such a system may require large amounts of memory, since many libraries may be needed to store the various awards of different point levels.

Detailed Description Text (39):

By selecting VIEWING OPTIONS 450, the user may set the order in which to view the awards. Thus, for example, the user may view the awards by alphabetical order, enter a ceiling point number for viewing all awards up to that ceiling, view awards by product or brand, etc. The award catalog of the program of the preferred embodiment includes a feature whereby when a particular award is shown, it includes information regarding how many points are required to redeem that particular award, and how many points the user is short of in order to redeem that particular award.

Detailed Description Text (41):

Another particular feature for viewing the award catalog is shown in FIG. 4. The user is provided with an access to the frequency database via FREQUENCY DATABASE 460. While in FIG. 4 FREQUENCY DATABASE 460 is shown to proceed from VIEWING OPTION 450, it would be appreciated that access to the frequency database and the routine of the feature described below can be provided in other places in the program.

Detailed Description Text (46):

In the description of the preferred embodiment, the term "user" also refers to merchants, product manufacturers, award program administrators, etc. These particular users may be provided with a special access code. Upon entering the special code, these particular users may be provided with a privileged access to the program which allows them to make limited changes to the data. Thus, for example, a merchant may use this special access to change a price charged for a particular product. Similarly, a program administrator may gain privileged access to enter newly added awards available through the program. In addition, in the preferred embodiment a report is generated upon each privileged entry so that the changes made can be monitored.

CLAIMS:

1. A system for an incentive award program, including a computer system accessible for on-line interactive communication with users, said computer system comprising;
a first memory area for storing product catalog, said product catalog including product descriptions and product prices for each product available for purchase;
a second memory area for storing an awards catalog, said awards catalog including an award description and award points value for each award; and,
a frequency database storing account information for each enrolled user of said incentive award program.
2. The system of claim 1, wherein said computer system is programmed to perform the

steps comprising:

providing a user with an on-line access to a product homepage and an award program homepage, said product homepage linking to said first memory area, and said award program homepage linking to said second memory area;

providing said user with an on-line order form for ordering a product for purchase, said order form being susceptible to electronic entries; and,

providing said user with an on-line redeeming form for redeeming award points towards an award chosen from said awards catalog, said redeeming form being susceptible to electronic entries.

3. The system of claim 2, wherein said computer is further programmed to receive said electronic entries and to perform the steps comprising:

establishing an on-line link to an order computer determined from said entries in said order form, and electronically sending via said on-line link selected ones of said entries of said order form to said order computer.

6. The system for an incentive award program of claim 5, wherein said product catalog includes enrollment level required for each of said products available for purchase, and wherein access for purchasing a product is restricted to users qualified for said enrollment level of said product.

7. The system of claim 2, wherein said computer is further programmed to perform the steps comprising:

receiving said electronic entries and striping electronic entries corresponding to predetermined queries of said order form; and,

establishing an on-line link to a predesignated computer and sending said electronic entries to said predesignated computer via said on-line link to verify available credit.

8. The system of claim 2, wherein said computer is further programmed to receive said electronic entries and to perform the steps comprising:

reading a price entry from said order form and calculating award points according to a predefined formula using said price as a parameter in said predetermined formula;

saving said award points in an award account of said user; and,

subtracting from said award account a redeemed points amount corresponding to a redeemable value of an award designated in said redeeming form.

9. The system of claim 2, wherein said computer is further programmed to perform the steps comprising:

receiving an electronic request to view said awards catalog;

defining an award ceiling depending on qualified award points in an awards account of a user sending said request; and,

displaying awards having award point value equal to said award ceiling and awards having award value lower than said award ceiling.

12. The system of claim 2, wherein said computer is further programmed to receive said electronic entries and to perform the steps comprising:

reading a price entry from said order form and calculating award points according to a predefined formula using said price as a parameter in said predetermined formula;

saving said award points in an award account of said user; and,

subtracting from said award account a redeemed points amount corresponding to a redeemable value of an award designated in said redeeming form.

13. The system of claim 2, wherein said computer is further programmed to receive said electronic entries and to perform the steps comprising:

reading a price entry from said order form and calculating award points according to a predefined formula using quantity of products purchased as a parameter in said predetermined formula;

saving said award points in an award account of said user; and,

subtracting from said award account a redeemed points amount corresponding to a redeemable value of an award designated in said redeeming form.

14. The system of claim 2, wherein said computer system further comprises an access code and wherein data of said computer system can be changed by said user when said user enters said access code.

15. The system of claim 2, wherein said computer is further programmed to perform the steps comprising:

fetching pre-designated information from said product catalog and defining said information as entry data for said order form.

16. The system of claim 2, wherein said computer is further programmed to perform the steps comprising:

fetching a number of required points required to redeem an award from said award catalog;

fetching a number of redeemable points available account information of one of said enrolled users' stored in said frequency database;

subtracting the number of available points from the number of required points and transmitting the results to a computer of said user.

17. A method for providing an on-line shopping and frequency award program comprising the steps of:

maintaining a frequency database for storing award points in award accounts corresponding to subscribed users;

providing an on-line access to a product catalog;

providing an on-line purchase order form, said on-line purchase order form including at least a register for a credit account number of a credit card and a register for a product identifier;

allowing a user to electronically send entries for said purchase order form;

establishing an on-line link to a credit computer and verifying availability of funds for said user;

establishing an on-line link to a computer of a seller of a product identified in said product identifier and electronically communicating said purchase order form together with said entries to said seller;

calculating award points by a predetermined formula taking into account a price of said product, and updating an award account of said user in said frequency database;

providing an on-line access to an award catalog having a plurality of files corresponding to various award articles;

providing an on-line award redeem form;

receiving electronic entries corresponding to queries in said award redeem form to allow said user to electronically redeem award points towards a chosen award from said award catalog; and,

subtracting from said award account of said user a number of points corresponding to the award points of said chosen award.

20. The method for providing an on-line shopping and frequency award program as claimed in claim 17, further comprising the steps of:

Receiving a request from said user to review said award catalog;

defining a ceiling point corresponding to the amount of redeemable award points stored in said award account of said user; and,

displaying award files having an award value equal to or less than said award ceiling.

21. The method for providing an on-line shopping and frequency award program as claimed in claim 17, further comprising the steps of:

Receiving a request from said user to review said award catalog;

defining a ceiling point as the amount of points entered by said user in a response to an inquiry; and,

displaying award files having an award value equal to or less than said award ceiling.

22. The method for providing an on-line shopping and frequency award program as claimed in claim 17, further comprising the steps of:

assigning a value for each award article of said award catalog;

defining a plurality of escalating levels;

assigning each of said award articles to only one of said plurality of escalating levels, depending on the value assigned to each of said articles;

receiving a request to review said award articles, and determining a level to which said request corresponds depending on the award points stored in said award account of said user; and,

making available for review only those articles corresponding to the level to which said request corresponds and any lower level.

24. A computer readable substrate having a computer program saved thereupon, said computer program comprising the steps of:

providing a user with an on-line access to a product homepage and an award program homepage, said product homepage linking to a searchable product database of products available for purchase, and said award program homepage linking to a searchable awards catalog of awards available for redemption;

providing said user with an on-line order form for ordering a product for purchase, said order form being susceptible to electronic entries;

receiving said electronic entries and striping predetermined entries corresponding to predetermined queries of said order form; and,

establishing an on-line link to a predesignated computer and sending said predetermined entries to said predesignated computer via said on-line link to verify available credit.

25. The computer readable substrate of claim 24, wherein said program further comprises the steps of:

establishing an on-line link to an order computer of a seller of a product designated by said entries in said order form, and electronically sending via said on-line link selected ones of said entries of said order form to said order computer.

26. The computer readable substrate of claim 25, wherein said program further comprises the steps of:

reading a price entry from said order form and calculating award points according to a predefined formula; and,

saving said award points in an award account of said user.

27. The computer readable substrate of claim 26, wherein said program further comprises the steps of:

providing said user with an on-line redeeming form for redeeming award points towards an award chosen from said awards catalog, said redeeming form being susceptible to electronic entries; and,

subtracting from said award account a redeemed points amount corresponding to a redeemable value of said award chosen.

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L4: Entry 1 of 2

File: USPT

Jun 30, 1998

DOCUMENT-IDENTIFIER: US 5774870 A

TITLE: Fully integrated, on-line interactive frequency and award redemption program

Abstract Text (1):

An fully integrated on-line frequency award program is disclosed. A user may access the program on-line and may brows a product catalog for shopping. The user may electronically place an order, upon which the program automatically checks the user's credit and electronically issues a purchase order to the supplying company. The program also calculates award points, updates the award account of enrolled users, and communicates that number of awarded points to the user. Enrolled users may browse through an award catalog and electronically redeem an amount of awarded points towards an award. The program then electronically places an award redeeming order with the fulfillment house and updates the user's award account.

Brief Summary Text (11):

The disclosed invention is also advantageous in that it provides an on-line access to product information, product purchases using an on-line electronic order form, award catalogs, and award redemption using an on-line electronic redemption form.

Brief Summary Text (17):

The above and other advantages are provided by the disclosed invention which includes provisions for access over the internet. Upon gaining of an access, the customer is able to browse through a merchandise catalog, an award catalog, view the bonus points available for redemption in the customer's award bonus account, and get information about the products for purchase, the program, and the customer's account. The program also enables the customer to order merchandise on-line, order prizes on-line and redeem awarded points on-line. Accordingly, the selection of available prizes is expanded by the merchants who join the program, and the bonus award is made instantly redeemable.

Detailed Description Text (4):

In FIG. 1, PRODUCT A HOMEPAGE, 100A, is a homepage of a particular type of products. For example, PRODUCT A HOMEPAGE, 100A, may be a homepage for men's shirts. In such an example, the PRODUCT A HOMEPAGE, 100A, may include icons to allow the user to select information regarding, for example, different brands, price ranges, types (dress shirts, sport shirts, etc.), and thereafter review the products available relating to the particular selection in a manner much similar to reviewing a printed product catalogue.

Detailed Description Text (12):

With continued reference to FIG. 2, selection menu 110 provides the user with the following options: proceed to PROGRAM HOMEPAGE 300, proceed to PRODUCT i HOMEPAGE, 100i, (i being any of the number of available products homepage) or proceed to ORDER FORM 130. Alternatively, the user may change the list of products by choosing the appropriate browsing option or using the search engine to create a new list of products (not shown). Upon selection of PRODUCT i HOMEPAGE, 100i, the program reverts to step Ai, i.e., to SELECTION MENU 110. Upon selection of PROGRAM HOMEPAGE 300, the program proceeds to step B shown in FIG. 3, which will be described later.

Detailed Description Text (13):

If the user decides to purchase an item, the program proceeds to ORDER FORM 130 and the user is prompted to electronically provide entries to the appropriate queries in the order form. Thereupon, a communication link is established and the program performs a CREDIT CHECK routine, 140, to verify the availability of funds for purchase.

Detailed Description Text (15):

A related feature of the present invention is that when the user enters ORDER FORM 130 from a particular product homepage describing a particular product, it is very likely that the user wishes to purchase that particular product. Therefore, the relevant information regarding the product can be read from the product's homepage and pasted at the appropriate positions in the ORDER FORM 130. Thus, the user will only have to enter information specific to options such as size, color, quantity, etc.

Detailed Description Text (16):

At step 130, certain predetermined information is striped off from the completed order form and sent to the credit check 140. Such information may be, for example, credit card number and dollar amount. This is because much of the information included in the order form is irrelevant to the person's credit, and the credit institution may be unable to handle the extra information. Furthermore, sending the least amount of information would expedite the credit check.

Detailed Description Text (17):

If the CREDIT CHECK routine 140 result is negative, in step 150N the user is provided with a message to that effect. The program may then prompt the user to enter another credit card number or to exit. However, if the CREDIT CHECK routine 140 result is positive, in step 150P the program proceeds to establish a communication link and places a PRODUCT ORDER, 160, with the product company. As shown in FIG. 2, in the preferred embodiment PRODUCT ORDER 160 is placed by electronic means such as e-mail or facsimile so as to render the program of the present invention fully integrated in an interactive on-line system; however, the ORDER FORM 160 can alternatively be placed by conventional means by simply printing and mailing the ORDER FORM 160 to the product company.

Detailed Description Text (18):

As shown in FIG. 2, while the communication link is established to the product company, the program also proceeds to the FREQUENCY DATABASE, 170. In FREQUENCY DATABASE 170 the user's information is checked against the database of enrolled users. If it is determined that the user is an enrolled user, 180E, the program proceeds to step 190 to calculate the award points according to a preprogrammed formula. Thereafter the program proceeds to add the points to the enrolled user's account, 200, and display the account information and the added points to the user, 210. From this point, the program may return to ORDER FORM 130, to step Ai (not shown), to PROGRAM HOMEPAGE 300 to view the awards catalog (not shown) or proceed to SELECTION MENU, 40, (not shown).

Detailed Description Text (21):

On the other hand, if in step 170 it was determined that the user is a new, unenrolled user, 180N, the program proceeds to step 220 to calculate the award points according to the preprogrammed formula. Thereafter, the program proceeds to step 130, wherein a message is sent to the user identifying how many points he will earn should he enroll in the program. Step 230 also inquires whether the user is interested in joining the program. Accordingly, step 230 may be in a form of a message such as, for example, "By enrolling in the incentive program you will earn [X] points for purchasing the [insert the item purchased]. These points may be redeemed toward exciting awards. Are you interested in enrolling or viewing the award catalog? Y/N."

Detailed Description Text (22):

If in step 240 the user selects NO in response to step 230, the program proceeds to ORDER FORM 130 or to process Ai (not shown), which proceeds to SELECTION MENU 110. Alternatively, after receiving NO in step 240 process may continue to SELECTION MENU 40. At step 240, if it is determined that the user would like to sign up with the award program (join), the program proceeds to step 250 which is a sign up routine. Any conventional sign up routine may be used at this stage of processing. At the end of the sign up routine, the program can return to point Ai, or to the purchase order form. The user may sign off from any of these locations.

Detailed Description Text (24):

At step 600 the user is prompted either to enter a credit card account number, 610, or to indicate that he wishes to use the same account used to access the internet or to purchase an item, in which case the account number is obtained from within the program, 620. (It should be recognized that the user's name can also be obtained internally from the on-line access program.) At 630 the user is prompted to enter a personal identification code, which can generally be a four letter/number code. At 640 the user is prompted to enter his choice of mailing address--the address indicated on the order form, 660, or a different address, 650. (A different address can be entered in the order form, for example, when purchasing a present to be mailed to the recipient). At 670 the program creates a new account in the database.

Detailed Description Text (30):

SELECTION MENU 310 allows the user to exit the program, go to PRODUCT Ai HOMEPAGE 100A (from which program would proceed to Ai in FIG. 2), go to the BROWSING OPTION 60, learn about the award program by selecting ABOUT AWARD PROGRAM 320, apply for membership by selecting MEMBERSHIP APPLICATION 250 (see, FIGS. 2 and 5), review the user's account by selecting the FREQUENCY DATA BASE 340, or review the awards catalog by selecting AWARD CATALOG HOMEPAGE 400 (shown in FIG. 4).

Detailed Description Text (33):

If the user selects AWARD CATALOG HOMEPAGE 400 processing proceeds to the routine shown in FIG. 4. In the preferred embodiment several options are available for viewing the award catalog. This is represented by the SELECTION MENU 410, although those skilled in the art would recognize that other processing can be provided for viewing the award catalog. As shown in FIG. 4, at least two options are made available by SELECTION MENU 410: SHOW QUALIFIED AWARDS 420 (shown continuing at branch E) and VIEWING OPTIONS 450. QUALIFIED AWARDS 420 allows the user a quick access to viewing all the awards the user is qualified for. VIEWING OPTIONS 450 allows the user to view the awards according to the order selected by the user.

Detailed Description Text (34):

If the user selects QUALIFIED AWARDS 420, the frequency database is accessed to determine the award point, 425. thereafter, the entire award catalog is scanned and a qualified awards database is created for the particular number of award points read from the user's account, 430. Thereafter, the first page of the first award is displayed, 435, and the user can browse through the catalog created in step 430. Alternatively, the user can select QUALIFIED AWARD OPTION 440 for different options of arranging and viewing the qualified awards catalog. These options can be, for example, by alphabetical order, by brands, by product, etc.

Detailed Description Text (35):

While the above method of displaying the qualified awards is workable, it may take too much time to scan all the awards in order to "custom" build a qualified awards catalog. Therefore, other alternatives may be used for creating the qualified award catalog. According to the preferred alternative, point levels are defined. For example, point level 1 can include all awards of value up to 500 points, point level 2, up to 1000 points, etc. When the user's account is read at 425, the

highest point level the user is qualified for is determined. At this point a message may be displayed such as "You are qualified for point level 3 and have an additional 350 in your account. To qualify for point level 4 you will need 150 additional points".

Detailed Description Text (36):

If memory size is not a problem, different libraries can be stored, each of which corresponds to a certain point level. Thus, for example, award library 1 can include all the awards which can be redeemed by a number of points defined by point level 1. In the above example, award library 1 will include all awards worth up to 500 points. Thus, when the point level of the user is determined, all the awards in the corresponding library are made accessible as qualified awards. This allow for fast access, since the step 430 of creating the qualified catalog is skipped. However, such a system may require large amounts of memory, since many libraries may be needed to store the various awards of different point levels.

Detailed Description Text (39):

By selecting VIEWING OPTIONS 450, the user may set the order in which to view the awards. Thus, for example, the user may view the awards by alphabetical order, enter a ceiling point number for viewing all awards up to that ceiling, view awards by product or brand, etc. The award catalog of the program of the preferred embodiment includes a feature whereby when a particular award is shown, it includes information regarding how many points are required to redeem that particular award, and how many points the user is short of in order to redeem that particular award.

Detailed Description Text (41):

Another particular feature for viewing the award catalog is shown in FIG. 4. The user is provided with an access to the frequency database via FREQUENCY DATABASE 460. While in FIG. 4 FREQUENCY DATABASE 460 is shown to proceed from VIEWING OPTION 450, it would be appreciated that access to the frequency database and the routine of the feature described below can be provided in other places in the program.

CLAIMS:

1. A system for an incentive award program, including a computer system accessible for on-line interactive communication with users, said computer system comprising:
a first memory area for storing product catalog, said product catalog including product descriptions and product prices for each product available for purchase;
a second memory area for storing an awards catalog, said awards catalog including an award description and award points value for each award; and,
a frequency database storing account information for each enrolled user of said incentive award program.

2. The system of claim 1, wherein said computer system is programmed to perform the steps comprising:

providing a user with an on-line access to a product homepage and an award program homepage, said product homepage linking to said first memory area, and said award program homepage linking to said second memory area;

providing said user with an on-line order form for ordering a product for purchase, said order form being susceptible to electronic entries; and,

providing said user with an on-line redeeming form for redeeming award points towards an award chosen from said awards catalog, said redeeming form being susceptible to electronic entries.

3. The system of claim 2, wherein said computer is further programmed to receive said electronic entries and to perform the steps comprising:

establishing an on-line link to an order computer determined from said entries in said order form, and electronically sending via said on-line link selected ones of said entries of said order form to said order computer.

6. The system for an incentive award program of claim 5, wherein said product catalog includes enrollment level required for each of said products available for purchase, and wherein access for purchasing a product is restricted to users qualified for said enrollment level of said product.

7. The system of claim 2, wherein said computer is further programmed to perform the steps comprising:

receiving said electronic entries and striping electronic entries corresponding to predetermined queries of said order form; and,

establishing an on-line link to a predesignated computer and sending said electronic entries to said predesignated computer via said on-line link to verify available credit.

8. The system of claim 2, wherein said computer is further programmed to receive said electronic entries and to perform the steps comprising:

reading a price entry from said order form and calculating award points according to a predefined formula using said price as a parameter in said predetermined formula;

saving said award points in an award account of said user; and,

subtracting from said award account a redeemed points amount corresponding to a redeemable value of an award designated in said redeeming form.

9. The system of claim 2, wherein said computer is further programmed to perform the steps comprising:

receiving an electronic request to view said awards catalog;

defining an award ceiling depending on qualified award points in an awards account of a user sending said request; and,

displaying awards having award point value equal to said award ceiling and awards having award value lower than said award ceiling.

12. The system of claim 2, wherein said computer is further programmed to receive said electronic entries and to perform the steps comprising:

reading a price entry from said order form and calculating award points according to a predefined formula using said price as a parameter in said predetermined formula;

saving said award points in an award account of said user; and,

subtracting from said award account a redeemed points amount corresponding to a redeemable value of an award designated in said redeeming form.

13. The system of claim 2, wherein said computer is further programmed to receive said electronic entries and to perform the steps comprising:

reading a price entry from said order form and calculating award points according to a predefined formula using quantity of products purchased as a parameter in said predetermined formula;

saving said award points in an award account of said user; and,

subtracting from said award account a redeemed points amount corresponding to a redeemable value of an award designated in said redeeming form.

15. The system of claim 2, wherein said computer is further programmed to perform the steps comprising:

fetching pre-designated information from said product catalog and defining said information as entry data for said order form.

16. The system of claim 2, wherein said computer is further programmed to perform the steps comprising:

fetching a number of required points required to redeem an award from said award catalog;

fetching a number of redeemable points available account information of one of said enrolled users' stored in said frequency database;

subtracting the number of available points from the number of required points and transmitting the results to a computer of said user.

17. A method for providing an on-line shopping and frequency award program comprising the steps of:

maintaining a frequency database for storing award points in award accounts corresponding to subscribed users;

providing an on-line access to a product catalog;

providing an on-line purchase order form, said on-line purchase order form including at least a register for a credit account number of a credit card and a register for a product identifier;

allowing a user to electronically send entries for said purchase order form;

establishing an on-line link to a credit computer and verifying availability of funds for said user;

establishing an on-line link to a computer of a seller of a product identified in said product identifier and electronically communicating said purchase order form together with said entries to said seller;

calculating award points by a predetermined formula taking into account a price of said product, and updating an award account of said user in said frequency database;

providing an on-line access to an award catalog having a plurality of files corresponding to various award articles;

providing an on-line award redeem form;

receiving electronic entries corresponding to queries in said award redeem form to allow said user to electronically redeem award points towards a chosen award from said award catalog; and,

subtracting from said award account of said user a number of points corresponding to the award points of said chosen award.

20. The method for providing an on-line shopping and frequency award program as claimed in claim 17, further comprising the steps of:

Receiving a request from said user to review said award catalog;

defining a ceiling point corresponding to the amount of redeemable award points stored in said award account of said user; and,

displaying award files having an award value equal to or less than said award ceiling.

21. The method for providing an on-line shopping and frequency award program as claimed in claim 17, further comprising the steps of:

Receiving a request from said user to review said award catalog;

defining a ceiling point as the amount of points entered by said user in a response to an inquiry; and,

displaying award files having an award value equal to or less than said award ceiling.

22. The method for providing an on-line shopping and frequency award program as claimed in claim 17, further comprising the steps of:

assigning a value for each award article of said award catalog;

defining a plurality of escalating levels;

assigning each of said award articles to only one of said plurality of escalating levels, depending on the value assigned to each of said articles;

receiving a request to review said award articles, and determining a level to which said request corresponds depending on the award points stored in said award account of said user; and,

making available for review only those articles corresponding to the level to which said request corresponds and any lower level.

24. A computer readable substrate having a computer program saved thereupon, said computer program comprising the steps of:

providing a user with an on-line access to a product homepage and an award program homepage, said product homepage linking to a searchable product database of products available for purchase, and said award program homepage linking to a searchable awards catalog of awards available for redemption;

providing said user with an on-line order form for ordering a product for purchase, said order form being susceptible to electronic entries;

receiving said electronic entries and striping predetermined entries corresponding to predetermined queries of said order form; and,

establishing an on-line link to a predesignated computer and sending said predetermined entries to said predesignated computer via said on-line link to verify available credit.

25. The computer readable substrate of claim 24, wherein said program further comprises the steps of:

establishing an on-line link to an order computer of a seller of a product designated by said entries in said order form, and electronically sending via said on-line link selected ones of said entries of said order form to said order computer.

26. The computer readable substrate of claim 25, wherein said program further comprises the steps of:

reading a price entry from said order form and calculating award points according to a predefined formula; and,

saving said award points in an award account of said user.

27. The computer readable substrate of claim 26, wherein said program further comprises the steps of:

providing said user with an on-line redeeming form for redeeming award points towards an award chosen from said awards catalog, said redeeming form being susceptible to electronic entries; and,

subtracting from said award account a redeemed points amount corresponding to a redeemable value of said award chosen.

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L2: Entry 1 of 1

File: USPT

Oct 29, 1996

DOCUMENT-IDENTIFIER: US 5570291 A

** See image for Certificate of Correction **

TITLE: Custom product estimating and order processing system

Detailed Description Text (5):

The plants 14 are each preferably provided with a LAN 44, as shown in FIG. 1, to support users working on a number of PCs 46 to provide data to the corporate office SQL server or database 36, as well as to send messages via the mail server 34. Other processes performed at a plant can include, but are not limited to, managing raw material inventory, scheduling and tracking jobs, shop floor data collection, production reporting and job planning, and providing the corporate office with data concerning the planned use of materials, materials requisitions, and the actual consumption of materials and labor during job execution for comparison with the corresponding estimate. As described in connection with the corporate office, each plant is preferably provided with a communication controller 48 to connect mainframe computer terminals 50 located at plant sites to the mainframe computer 18 at the corporate office over the LAN 24 via routers 52 and 54. A minicomputer 56 such as the IBM minicomputer model number AS/400 and associated AS/400 terminals 58 are connected to the token ring 44.

Detailed Description Text (13):

As will be described below in connection with the Manufacturing Information Processing System (MIPS), a Raw Material Inventory Control subsystem 104 and a Data Collection subsystem 108 monitor the materials used in the plants for fulfilling customer orders. The plant 14 provides data from the Data Collection subsystem 108 to the Labor and Material subsystem 94 and to the Estimating subsystem 90 relating to the materials and equipment used, as well as the labor required, to fulfill a particular order. The data from the Data Collection Subsystem 108 is used for performing actual cost analysis at the corporate office, for job planning at the plant and, once the actual materials used to complete an order have been determined, for updating a Planning Bill of Materials subsystem 102 and the Raw Material Inventory Control subsystem 104. The plant 14 can therefore provide data to the sales site regarding the status of an order for improved customer service. Further, the Purchasing subsystem 84 and the Raw Material Inventory Control subsystem 104 or the Labor and Material subsystem 94 provides the Estimating subsystem 90 with information concerning material attributes such as weight, paper grade, paper or ink color, material codes and material quote information (e.g., quote number, effective date, and material price) and therefore facilitates the process of determining more accurate estimates for the cost of fulfilling a customer order. Similarly, the Labor and Material subsystem 94 provides the Estimating subsystem 90 with standard material cost information, actual job information received from the Job Scheduling and Tracking subsystem 100 in the various plants, as well as actual production information such as waste percentages, feet per run hour and actual material usage.

Detailed Description Text (14):

Information from the plant is also used by the General Ledger subsystem 96 to generate accounting journal entries. As stated previously, the Raw Material

Inventory Control subsystem 104 and the Data Collection subsystem 108 monitor the materials used in the plants for fulfilling customer orders. The Purchasing subsystem 84 receives requisitions from the Raw Material Inventory Control subsystem 104. When the material receipt is received, it is used to update the Raw Material Inventory Control subsystem via the Receiving System 106. This information is provided to an Accounts Payable subsystem 98 for automatically tracking the accounts payable to the various vendors of these supplies. The Accounts Payable data is also provided to the General Ledger subsystem 96.

Detailed Description Text (16):

MIPS 89 further comprises a Raw Materials Inventory Control subsystem 104 for monitoring supplies (e.g., paper, ink), and informing the Purchasing subsystem 84 when raw materials are needed. A Receiving subsystem 106 monitors the receipt of raw materials for custom product manufacturing, as well as receipt of finished goods, e.g., release order forms that have already been produced and are being warehoused, and office supplies such as staplers that are offered for resale in a catalogue along with the release forms. A Data Collection subsystem 108 collects data relating to materials and labor used per job, per customer and per plant. This data can be used for internally monitoring the performance of the plant. This data can also be used by the Labor and Materials subsystem 94 for cost accounting.

Detailed Description Text (39):

With reference to the affirmative branch of decision block 145 and block 147, the Estimating subsystem 90 can generate an estimate for an item that is to be priced in accordance with a contractual agreement between the customer and the corporation. As will be described below in connection with FIGS. 28 through 36, contract price matrices can be generated to reflect contractual terms. Contract price matrices can be created as a subset of the standard or generic price matrices used to generate estimates for non-contract items. The generic price matrices can be used for estimating any customers' orders. The generic price matrices are generally based upon raw material prices, equipment and other factors that affect actual cost to fulfill an order. A custom price matrix, on the other hand, can include contractual concessions between the forms manufacturer and the customer resulting in prices below, for example, the standard prices, i.e., discounts for the volume of business the customer brings to the manufacturer. An advantage of using contract price matrices is that they support contract proposal generation by corporate personnel in, for example, a Contract Administration division of the corporation by developing matrices of multiple items. This is particularly useful when the corporation is offering concessions to a customer with a large number of existing forms. The contract matrices eliminate the need to perform an estimate for each form for contract proposal purposes. Since contract terms are stored at the corporate office, corporate personnel can perform contract profit and other types of analysis, and provide contract customers with a common reference for pricing.

organized in a prioritized manner in accordance with the hierarchy. A particular item may be chosen, and similar competing items would be compared to it. For example, the prices of a service may be compared to the prices of other similar services. The advantages of selected items could also be highlighted against similar competing and noncompeting items.

Detailed Description Text (1157):

WEB APPLICATION REVISION CONTROL Stores current files along with past changes to docs to allow easy recreation of previous versions Allows user to set various access levels to assign user- and project-specific authorization Allows user to tailor custom file access rights Reconciles file changes from multiple users to prevent accidental code overwriting Speeds up performance by allowing direct access to most recent files, leaving delta storage for previous versions Ensures each user kept in sync with rest of the team by comparing the user's personal working directory with the corresponding shared project Allows specific versions of files to be grouped to identify application builds

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L50: Entry 1 of 5

File: USPT

Jan 8, 2002

DOCUMENT-IDENTIFIER: US 6338067 B1

TITLE: Product/service hierarchy database for market competition and investment analysis

Application Filing Date (1):19990302Brief Summary Text (8):

It would be advantageous to provide a product-hierarchy database that organizes accurate comparable industry, sector, sub-sector, and group market performance and stock investment information centered around the products produced and services performed of each company and their true competitors, with each product or service type created as an index. Such product hierarchy should enable the creation of an index for each product or service type which can be valued and measured.

Brief Summary Text (10):

The invention provides a product-hierarchy database that organizes accurate comparable industry, sector, sub-sector, and group market performance and stock investment information centered around the products produced and services performed of each company and their true competitors, with each product or service type created as an index. Such product hierarchy enables the creation of an index for each product or service type which can be valued and measured.

Detailed Description Text (2):

The invention provides a product-hierarchy database that organizes accurate comparable industry, sector, sub-sector, and group market performance and stock investment information centered around the products produced and services performed of each company and their true competitors, with each product or service type created as an index. Such product hierarchy enables the creation of an index for each product or service type which can be valued and measured.

Detailed Description Text (20):

Fundamentally, each new product hierarchy chain is created in the database 200 according only to a product manufactured or a service performed, and must be completely independent of any other factor. A hierarchical breakdown within any industry, sector, sub-sector, or group is independent of the constituent companies themselves. Only their individual products and services matter. Accordingly, all such companies are associated at a particular product level based upon products manufactured or services performed and not dependent on a company's self-described business description.

Detailed Description Text (22):

When a new product level in a hierarchy is created, it is attached as a subset of a previous level or category and is related by association. Every other lower and subsequent product level is associated, linked, or related to some other higher level in the chain of the product hierarchy 206, except at the highest level.

Detailed Description Text (27):

FIG. 5 represents a generalized product hierarchy 500. The product hierarchy begins

with broad product types at top level "A" 502, and scales down through levels 504-518 and branches out to very specific products. Companies can only be directly linked to the lowest level in the hierarchy, but are then identified with higher levels because the parent levels in the hierarchy are directly linked to the lower levels. The relationships that exist between product levels is preferably memorialized in one lookup record using a method of assigning a parent identity and level number to each product. An unlimited number of product levels 502-518 can be created in an industry, sector, sub-sector, and group within the product hierarchy 500. When a new product level in the product hierarchy 500 is created, it then becomes a subset of the previous level/category and is related by association. With the exception of the highest level, every other lower and subsequent product level is associated/linked/related to some other higher level in the chain of the product hierarchy.

Detailed Description Text (32):

Referring once again to FIG. 2, when a node level in the product hierarchy 206 is created, there are two methods for inputting data that are mutually exclusive. In a first method, a company which has a product and a corresponding brandname or tradename can be attached to a lowest product level. This action thereafter defines that product level as the lowest level in the chain. In a second method, another product level is attached by creating a new level in the product hierarchy 206. Once a company and its product has been assigned to a hierarchy level, it becomes associated at every higher level in the product hierarchy for that particular chain of connection by default. As a result, companies can be associated with the highest to the lowest hierarchy levels.

Detailed Description Text (39):

An individual company can be related to some other company or entity for any number of reasons. A two-way database association is implemented by linking two separate records to the general company record 214 through a many-to-many relationship. The two record links are the association and is represented by the double lines between company record 214 and company associations record 228 in FIG. 2. The company association type record 232 identifies why the two entities are related, and/or otherwise explains the basis for the association. Association types can include customers, strategic partners, corporate and venture shareholders, equipment suppliers, and component suppliers. An unlimited number of association types can be created. Such structure allows a user to search by a particular association type. For example, list all of the customers for company A or list all the companies that have company A as a customer. In another example, if company A has company B as a customer, then from company B's perspective company A could be either a component or equipment supplier.

Detailed Description Text (41):

Revenue percentage figures can be attached to every one of a company's products. A data field is included to store the percentage of revenue a company generates for each product. Such revenue percentage value can be attached at any level in a product hierarchy, lowest to highest for a particular company for its products. Therefore, if a figure has been entered at a higher level in the product hierarchy, it may represent the percentage of revenue generated for more than one company product. If such company has multiple products associated at lower levels in the product hierarchy, the sum of the figures entered for a company may not exceed one hundred percent. A search by query manager 110 is satisfied if a figure is entered at a lower level in the product hierarchy and the user nevertheless sets a parameter based on a higher level in the chain.

Detailed Description Paragraph Table (1):

TABLE I (Quantitative Information) CO_ID(FK) RECORD_TYPE RECORD_NO year quarter derived_data_processed_flag industr_code repno cusip ticker coname split_date split_factor currency_code currency_rate fplen fplenscf fptyp fpbegdt fpnddt updstatbs updstatcf restdtis restdtbs restdtcf fisperiod revenue

interest_income_bank premiums_earned net_investment_income realized_gains_losses
other_revenue total_revenue cost_of_revenue losses_benefits_adjustments
amortization_of_policy_costs fuel_expense direct_operating_expenses
selling_general_admin_expenses depreciation_and_amortization
research_and_development interest_expense other_operating_expenses
unusual_income_expenses interest_expense_bank loan_loss_provision total_expenses
interest_income_non_operating interest_expense_non_operating
interest_net_non_operating afudc non_interest_income non_interest_expense
gain_loss_on_sale_of_assets other_net income_before_taxes income_taxes
income_after_taxes minority_interest_is equity_interests_is preferred_dividends
general_partner_distribution us_gap_adjustment misc_earnings_adjustment
interest_adjust_primary_eps adj_inc_avail_to_cmn_prim_eps
primary_eps_excl_xord_items discontinues_operations extraordinary_items
accounting_change primary_ips_include_xord_items dividends_per_common_share
primary_average_shares_outstnd full_dilution_adjustment
fully_diluted_shares_outstnd fd_eps_excl_xord_items fd_eps_include_xord_items
cash_and_equivalents cash_and_due_bank other_short_term_investments investments
loans loan_loss_reserves other_interest_earning_assets accounts_receivable
inventory prepayments_and_advances deferred_policy_acqsn_costs other_current_assets
total_current_assets long_term_investments utility_plant utility_plant_depreciation
utility_plant_net property_plant_equipment accum_depreciation_and_amort
property_plant_equipment_net goodwill_intangibles deferred_charges other_assets
other_long_term_assets total_assets accounts_payable short_term_debt deposits
other_interest_bearing_liab policy_liabilities curr_port_ltd_cap_lease_oblig
other_current_liabilities other_liabilities total_current_liabilities
long_term_debt capitalized_lease_obligations tota_long_term_debt
minority_interest_bs deferred_taxes other_long_term_liabilities total_liabilities
redeemable_preferred preferred_stock common_stock additional_paid_in_capital
retained_earnings treasury_stock other_equity esop_debt_guarantee
total_shareholder_equity shares_outstanding_period_end net_income_scf
depreciation_scf amortization_scf deferred_taxes_indirect other_non_cash_items
cash_receipts cash_payments cash_taxes_paid cash_interest_paid
other_operating_cash_flows total_cash_from_operating_act capital_expenditures
other_investing_cash_flows total_cash_from_investing_act dividends_paid
purchase_or_sale_of_stock purchase_and_retirement_debt other_financing_cash_flows
total_cash_from_financing_act exchange_rate_effects net_change_in_cash cash-
interest_paid_indirect cash_taxes_paid_indirect depreciation_amortization_scf
dividend_growth_5yr revenue_growth_5yr earnings_per_share_growth_5yr
revenue_per_employee no_of_employees avg_square_feet_space sv_gross_profit
sv_gross_margin sv_selling_gen_admin_percent sv_research_anddev_prcnt
sv_total_expenses sv_oprtng_income sv_oprtin_margin sv_income_before_tax_margin
sv_tax_rate sv_net_income_mrgn sv_long_term_debt_to_capital
sv_long_term_debt_to_equity sv_total_dept_to_equity sv_workin_capital sv_curr_ratio
sv_quick_ratio sv_oprtng_cash_flow_last_yr sv_roe_trailing_4_quarters
sv_roe_last_5_fiscal_years sv_roe_last_quarter sv_roa_trailing_4_quarters
sv_roa_last_5_fiscal_years sv_roa_last_quarter sv_total_capital sv_total_debt
sv_roic_trailing_4_quarters sv_roic_last_5_fiscal_years sv_roic_last_quarter
sv_cash_per_share sv_dso_last_quarter sv_dso_last_5_fiscal_years
sv_inventory_turnover_1st_qtr sv_inventory_turnover_1st_yr
sv_oprtng_income_to_assets_tr sv_book_value_per_share sv_oprtng_cash_flow_trailing
sv_oprtng_cash_flow_share_tr sv_oprtng_cash_flow_share_lfy
sv_pct_chng_gross_mrgn_seq sv_pct_chng_gross_mrgn_yoy sv_pct_chng_oprtng_mrgn_seq
sv_pct_chng_oprtng_mrgn_yoy sv_pct_chng_income_mrgn_seq sv_pct_chng_income_mrgn_yoy
sv_sales_per_share_trailing sv_sales_per_share_1st_5_yr sv_asset_turnover_trailing
sv_asset_turnover sv_interest_coverage_1st_qtr sv_interest_coverage_1st_5_yr
sv_revenue_growth_seq sv_revenue_growth_yoy sv_revenue_growth_1_year
sv_earn_per_share_growth_yoy sv_earn_per_share_growth_seq
sv_earn_per_share_growth_1_yr sv_1_yr_forward_eps_growth_rt
sv_market_capitalization sv_current_price_to_earnings sv_historical_pe_ratio
sv_forward_pe_ratio sv_price_to_book_value sv_price_to_sales_trailing

sv_price_to_sales_5fy
sv_price_to_oprtnng_cash_flow
sv_price_to_free_cash_flow
sv_current_pe_ratio_to_growth
sv_forward_pe_ratio_to_growth
sv_free_cf_per_share_tr
sv_free_cf_per_share_lfy
sv_price_to_free_cf_tr
sv_avg_gross_ppe_per_employee
sv_avg_gross_ppe_per_sqft
sv_debt_to_mkt_cap
sv_pct_chng_gross_mrgn_fy
sv_pct_chng_oprtnng_mrgn_fy
sv_pct_chng_income_mrgn_fy

Current US Cross Reference Classification (4):

705/26

Other Reference Publication (2):

Shvartsman, Alex A., "Dealing with History and Time in a Distributed Enterprise MAnager", IEEE Network, Nov. 1993, vol. 7, Issue: 6, pp. 32-42.

9/8/6553

First Hit Fwd Refs

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End of Result Set

L3: Entry 1 of 1

File: USPT

Apr 1, 2003

US-PAT-NO: 6542905

DOCUMENT-IDENTIFIER: US 6542905 B1

TITLE: Automated data integrity auditing system

DATE-ISSUED: April 1, 2003

INVENTOR-INFORMATION:

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APPL-NO: 09/ 519683 [PALM]

DATE FILED: March 7, 2000

PARENT-CASE:

This application claims the benefit of provisional application No. 60/123,736 filed Mar. 10, 1999.

INT-CL: [07] G06 F 17/30

US-CL-ISSUED: 707/200

US-CL-CURRENT: 707/200

FIELD-OF-SEARCH: 707/8, 707/100, 707/102, 707/200, 707/202, 283/72, 600/300, 600/301, 705/1, 705/2, 705/3, 705/4, 709/246, 710/19, 714/15, 714/25

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US CL
<input type="checkbox"/> <u>4470116</u>	September 1984	Ratchford	360/5
<input type="checkbox"/> <u>5359509</u>	October 1994	Little et al.	705/2
<input type="checkbox"/> <u>5469563</u>	November 1995	Morita	714/25

6082776

July 2000

Feinberg

128/904

ART-UNIT: 2175

PRIMARY-EXAMINER: Mizrahi; Diane D.

ASSISTANT-EXAMINER: Mofiz; Apu M

ATTY-AGENT-FIRM: Lipsitz; Barry R. McAllister; Douglas M.

ABSTRACT:

An automated computer-based data integrity auditing system is provided for use in the healthcare industry, financial industry, academic and educational fields, or any other field in which a need exists for monitoring data integrity. Coded data received from a service organization are checked for proper coding and completeness. The coded data are stored in a computer database together with indicators specifying bad data found during the checking step. The stored coded data are processed in a computer to apply at least one data integrity test to a portion of the data. A score is assigned to the tested portion of data based on the data integrity test. Reports are generated by the computer to identify the score together with suggestions for resolving any data integrity and/or coding and completeness problems determined by the system. Real-time reports can also be provided to the organization to assist in coding and entering the data prior to a formal submission to a government agency or the like.

39 Claims, 1 Drawing figures

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L3: Entry 1 of 1

File: USPT

Apr 1, 2003

DOCUMENT-IDENTIFIER: US 6542905 B1

TITLE: Automated data integrity auditing system

Brief Summary Text (22):

The invention also describes and specifies a method for estimating and grading the validity of quantitative and categorical data submitted electronically by a healthcare provider or other service organization. The estimate, or proxy measure, is referred to herein as data integrity. Applied prospectively, the method can be used to ensure the integrity of data before their submission for a clinical, financial, or regulatory purpose. The prospective data integrity audit can be used as the raison d'etre of a network of care providers. Because the network administrator would have available detailed and reliable clinical information on every resident of every facility in the network, the network could be an especially effective tool for targeting messages to management, supporting clinical decision-making, and aggregating the networked facilities' demand for supplies and services. Better purchase terms and more efficient supply chain management would result.

Detailed Description Text (11):

The confidence limits and thresholds used in (B1), (B2), and (B3) can be dynamically adjusted to reflect the patient population in the facility being analyzed relative to the patient populations in the reference facilities. Furthermore, thresholds can be adjusted to reflect the tolerance of payers, regulators, researchers or other end users for various kinds of data integrity issues. This can be done for individual facilities, chains of facilities, associations, or geographical regions.

Detailed Description Text (17):

The purpose of the Retrospective Version is to aid the clinical and administrative staff of the care provider organization in care planning, program evaluation, staff education, setting of priorities, estimation of contingent liabilities from data validity problems, etc. Specifically, it offers perspectives on processes of assessment, coding, and documentation that could be producing invalid data. It gives advice for improving data integrity in specific areas of weakness. It estimates the financial impact of data validity problems on the provider organization. Within provider networks and chains, it can help management identify clinical and administrative strengths and weaknesses, identify and disseminate best practices in assessment and documentation, and estimate the overall financial impact of data validity problems. Regulators and payers can use the Retrospective DIA to identify individual MDS-based payment claims that should not be paid prior to a review of clinical documentation. In addition, they can use it to identify facilities that produce grossly invalid or potentially fraudulent MDS assessments.

Detailed Description Text (22):

Elements of the Automated Data integrity Auditing System include the following: 1) The operational definition of data integrity given above. 2) A specific set of data integrity tests. a) Individual-level tests: Individual item responses, or combinations of item responses, that are missing, violate coding rules, are done on incorrect dates, are logically impossible, are clinically improbable, or require

special documentation. b) Group-level tests: Ratios of item responses or item response combinations in which the numerator and denominator define a logical relationship among MDS items, or the rate of a specific item response or combination. Or, other statistics calculated from facility level MDS data, such as internal consistency estimates or correlation coefficients. These are compared with a test-specific threshold level determined by empirical study of facility-level data, or set by reference to regulatory policy, payer policy, or experience with audits. When the ratio or other statistic is beyond the threshold, there is a data integrity issue. The issue becomes a data validity problem when the clinical record does not have adequate documentation to explain the observed ratio or statistic. c) Obvious tests: Tests of data completeness and timeliness, adherence to coding conventions, and logical consistency. d) Non-obvious tests: Tests that reflect clinical insight, that are validated by empirical studies of large samples of facility-level data. (Example: It is not logically necessary that a resident with severely impaired decision-making cannot establish their own goals, but clinically this is true, and the relationship has been validated on a sample of over 200 facilities.) e) The method of: i) combining test data to develop an assessment of overall data integrity; ii) describing the probable process problems giving rise to data integrity problems; iii) providing suggested fixes to data integrity issues when these are not obvious; iv) providing specific data integrity tests based on clinical or statistical considerations, as opposed to coding conventions, completeness, assessment dates, or logical relationships. f) A set of specific data integrity tests. g) A set of process analyses and recommendations linked to each data integrity test. 3) A system of weights and thresholds. The system assigns a vector of ordinal variables, binary variables, and a threshold percentage to each data integrity test. The elements of the vector are as follows: a) An ordinal variable representing the relevance of the items involved in the data integrity test to measuring quality of care. For example: a relevance weight of three may represent items that are involved in calculation of an official quality indicator; a relevance weight of two, items that are involved in calculation of a performance measure used by the facility but not mandated by payers or regulators; a relevance weight of one, items that are involved in calculation of risk factors for a quality indicator or performance measure; and a relevance weight of 0, items that are not involved in either risk factors or outcomes for quality indicators or performance measures used by the facility or its payers or regulators. b) A binary variable representing the relevance of the items involved in the data integrity test to the calculation of reimbursement. Multiple binary variables may be used to represent multiple payment systems. c) An ordinal variable related to the estimated likelihood that a documentation audit or regulatory scrutiny will be triggered by the data integrity issue identified by the test. For example: A predictive weight of three may represent a likelihood of audit greater than or equal to 50%; a predictive weight of two, a likelihood of audit between 10% and 50%; a predictive weight of one, a likelihood of audit greater than zero but less than 10%; and a predictive weight of zero, that the item is not used by auditors or regulators. These variables can be updated periodically based on the actual experience of a facility, a chain, or the facilities in a geographic region. d) A threshold value for failure of the test at the facility level. This will be a number between zero and one that defines a threshold for the failure of a test at the facility level. In the case of data integrity tests applicable to individual assessments, the number is the proportion of instances for the given data integrity test that are failed. In the case of statistical data integrity tests applied only to aggregated data, such as internal consistency statistics or correlation coefficients, the threshold is a value of the given statistic. Considering a large population of discrete nursing facilities, many data integrity tests show a bimodal distribution, with one mode at or near 100%, and another several points lower. Multiple threshold values can be used to characterize the severity of an issue. e) A "frequently failed" binary variable that equals one when the data integrity test is failed by a relatively high proportion of facilities with generally valid data. "Relatively high proportion" means greater than or equal to 10% of facilities, but for items with no exceptions expected "relatively high proportion" may be defined to mean

greater than or equal to 5% of facilities. f) The "inexcusability weight": an ordinal variable representing how likely it is that there is a clinically reasonable explanation of the data integrity issue at hand. For example, gross logical contradictions, incomplete assessments, and missed deadlines have no excuse. On the other hand, typical clinical relationships among MDS items may not apply in a specialized clinical population. For example: an inexcusability weight of two signifies that there is no reasonable explanation; an inexcusability weight of one signifies that there may be a valid explanation in a special population or under unusual clinical circumstances; and an inexcusability weight of zero signifies that there are many valid explanations for the failure of the data integrity test related to specific clinical circumstances. 4) For each data integrity issue, a description of likely reasons for its existence--including errors in assessment, coding, data entry, or interpretation of MDS items. 5) For each individual data integrity issue identified by the DIA, a recommended strategy for resolving the issue. This can involve changing one or more item responses, ensuring adequate documentation in the clinical record, or both. 6) For each facility-level, chain-level, association-level or community-level data integrity issue, a description of usual causes and suggestions for addressing them at the organizational level. This may involve changes in work processes, education and training, or information systems. 7) Benchmarking an organization's incidence of data integrity issues against a reference sample of similar organizations (i.e., facilities, chains, associations, or communities). Benchmarks and aggregated scores are used in reporting the data integrity performance of multi-facility organizations. a) Creation of a "report card" organized by sections of the MDS. The report card is a matrix of scores; the vertical axis lists MDS sections; the horizontal axis lists perspectives, e.g., Quality, Medicare Reimbursement, Medicaid Reimbursement, and Regulatory Compliance. Scores are given in each "subject" (MDS section). The scores for each "subject" (MDS section) are based on patient-level data integrity tests that involve items in that MDS section. Each such test yields a percentage--the proportion of patients who passed that data integrity test. Each of the section scores is based upon: a percentage of data integrity tests passed, where each test is weighted based on the perspective (quality, reimbursement, or regulatory), the excuse score, and the likelihood of failure of the test by facilities with generally valid data. The specific formulas are presented below. b) Presenting scores as (graphical) percentile ranks within a reference sample of facilities or organizations, highlighting the one that is the subject of the report, is used to characterize the DIA performance relative to the benchmarks. 8) A listing of patients with data integrity issues, organized by room number in the facility. For each patient, a medical record number, the MDS sections involved, the DIA tests involved, the date of the assessment, the principal diagnosis, and the type of assessment are given. This permits a rapid determination of the locus of assessment errors, and helps target process improvement and in-service training. 9) Comparison of "report cards" across facilities in a chain or association. This permits the identification of strengths and weaknesses among the facilities vis-a-vis resident assessment with the MDS. This in turn aids in performance evaluations of administrators and MDS coordinators, and the planning of in-service training and process improvement efforts. 10) Documentation prompts. Data integrity issues can arise from valid assessments of patients with unusual clinical features or circumstances. Likewise, facility-level data integrity issues can arise when facilities treat unusual clinical populations. However, quality monitors, payers, and regulators may nonetheless focus audits on providers with data integrity issues. Therefore, careful documentation of special circumstances is especially important for MDS items involved in failed data integrity tests. The Data Integrity Audit system provides immediate online prompts to check documentation and to ensure adequacy of documentation in such circumstances. It suggests potential reasons why a data integrity issue might arise from a valid assessment, and offers language that might be useful in writing the supporting documentation. For example, a data integrity issue arises when a patient is scored on the MDS as being comatose, yet also is scored on the same MDS assessment as having a problem with wandering. An unusual circumstance that would give rise to this issue on a valid MDS assessment

is one where a patient is admitted to a facility in a coma, but then recovers and begins to wander in a state of confusion. The MDS refers to events occurring in a 7-day assessment reference period rather than reporting the state of affairs at one moment in time. If the 7-day assessment period captured the patient's awakening from coma, it could validly assess the patient as comatose and wandering. The Data Integrity Audit points this out, and suggests that the user carefully document the patient's emergence from coma during the assessment reference period. Documentation prompts also are provided for data integrity issues specific to a particular setting--facility, chain, or community. These are issues that do not represent logical contradictions or clinical or statistical improbabilities, but nonetheless are items of special concern to payers or regulators. Special data integrity tests are added to the standard set to determine when these documentation prompts are needed. For example, a payer may determine that occupational therapy is used excessively in a particular nursing home chain, and therefore scrutinize the documentation of occupational therapy hours and indications and goals of the therapy. A data integrity test would be added that would be "failed" whenever occupational therapy hours exceeded a specified threshold. The "failure" would trigger a documentation prompt. Of course, the results of these tests would not be included in the calculation of data integrity scores described above. A separate section of the DIA report can be added that shows the number of documentation prompts by diagnosis, location within the facility, and sections of the MDS involved. As with other sections, this section can be used to guide facilities' process improvement efforts and information system design. In one embodiment of the DIA, the provider of the DIA service systematically gathers information about payers' and regulators' audit criteria, and individual facilities' and chains' audit histories. In particular, the DIA service provided to a specific facility or chain includes data integrity tests and documentation prompts addressing the circumstances that have previously triggered focused medical reviews and audits, reduction or denial of payment, or citations by regulators. For a given facility, past experience may allow the computation of a rate at which each data integrity issue has been identified by a payer, regulator, or surveyor as a problem calling for action. Issues with nonzero rates receive maximum weights on the regulatory compliance dimension. For example, consider a facility that has had RUGS-based Medicare payments reduced because a high level of rehabilitation frequently was delivered to residents with severe cognitive impairment. More particularly, over the past six months, 30% of residents in this facility with severe cognitive impairment and 325 minutes of rehabilitation have had their RUGS payments reduced. That is, the data integrity issue has a 30% chance of being seen by the external authorities as a true data validity problem. The DIA for that facility would identify a data integrity issue when the MDS showed severe cognitive impairment (on the MDS-based Cognitive Performance Scale) and 325 minutes of rehabilitation in the past 7 days. This is a data integrity issue because severe cognitive impairment usually limits an individual's ability to profit from rehabilitation. The feedback to the facility would point out that specific clinical record notes were needed to explain the appropriateness of rehabilitation in this resident with severe cognitive improvement. The DIA user would be prompted to reassess cognitive performance, actual hours and days of rehabilitation, and review the clinical record documentation of both the therapy hours and their medical necessity. The test would receive a maximum weight on the regulatory compliance dimension. On the other hand, suppose a facility were audited on all cases with a high level of rehabilitation without regard to the remainder of the MDS. In this case, the data integrity test would trigger a documentation prompt but would not contribute to the data integrity scores. Documentation prompts may be given for data integrity issues that describe clinical relationships that might appear improbable on a first look, but that have many potential explanations or "excuses." These issues receive no weight in the calculation of "report cards". However, such data integrity issues still can become data validity problems if the documentation in the clinical record is inadequate to explain them. The system prompts the user for appropriate documentation in these situations, suggesting where to find and where to record the necessary elements of documentation, and at times proposing specific language to

express those elements. Documentation prompts based on a facility's Retrospective DIAs is a feature that facilitates staff training and clinical process improvement. The Prospective DIA provides item change recommendations and documentation prompts. The latter are triggered by universal data integrity issues such as those described in this application, as well as specific issues triggered by regulators' concerns as expressed through publicly-available reports and transmittals, the aggregated regulatory and reimbursement experience of the facilities using the DIA system, and each facility's prior audit history. When specific issues are also universal issues that capture clinical relationships among MDS items, they are included in the data integrity scores and receive the highest weight on the regulatory compliance and/or reimbursement dimensions. When they are not universal issues or when they are merely specific payers' documentation requirements for individual MDS items, they are not included in the data integrity scores. 11) Estimation of the financial impact of data integrity issues. Payers for nursing home care, e.g., Medicare fiscal intermediaries (FIs), will decrease payment to nursing homes if their reviewer determines that some of the care rendered was not medically necessary, if the relevant MDS assessment was not filed on time, or if there were errors in assessment and coding of items critical to the calculation of the resident's Resource Utilization Group (RUG). Except for downgrades or denials of payment based on gross errors or failure to perform and file electronic MDS assessments

Detailed Description Text (48):

To calculate data integrity scores from a collection of individual tests of data integrity, scores must be combined in some way. This is done by using weighted sums of integrity test scores, where weights are based on the following factors: The purpose for which the data set will be used. For example, if the data are to be used for reimbursement, items associated with the greatest incremental effect on reimbursement will receive the most weight. The frequency with which the data integrity issue or problem occurs in data from facilities with generally valid data. Data integrity measures are benchmarked with respect to a large number of data sets from different data sources (e.g. different health care providers). Frequently "failed" data integrity tests receive less weight than those "passed" by a high proportion of the data sets evaluated. The likelihood that the individual data integrity issue represents a validity problem--that is, how likely there is a reasonable clinical explanation for an apparent inconsistency or lack of correlation. In assigning a weight based on this factor, logical inconsistencies will count more than an inter-scale correlation that exceeds usual limits. Thus, there is a "no excuse" factor, which is, e.g., either 0, 1, or 2. The no excuse factor depends on how serious the excuse for invalid data is. Thus, a 0 may be assigned as the no excuse factor when there are several plausible reasons why valid data might have the given issue; a 1 may be assigned when reasons exist for the given issue but are rare and unusual; and a 2 may be assigned when there is no excuse, as in the case of a logical inconsistency. The no excuse factor is used (e.g., by adding 1 to it and then using the sum as a multiplier) in order to weight the score of each data integrity test. The basis of the weights assigned for each perspective will depend on an analysis of trends in the long-term care industry (or whatever other industry to which the method is applied), current government regulations and policies, and the expertise and knowledge of the user of the method. When the DIA is used within a chain or association, weights can be assigned on a customized basis to reflect the goals, concerns, preferences, and experience of the user. When the DIA is used within a network of facilities, tests can be added or removed on a periodic basis, or weights changed, to reflect changes in regulatory practice and the requirements of compliance programs. DIA Score Calculation Formulas are used to combine the weights and DIA test results into a score. The formulas aggregate disparate, individual, stand-alone tests into a structured numeric result. This facilitates the interpretation of the collective impact on the user. In this application, this methodology is specific while being easily extended to quantify and characterize other organizational and business perspectives that may be important to the user. This approach can be extended to quantify other important characteristics as the clinical and business environment

continues to change; this can be done by changing the weights and formulas to define a mathematical distribution that identifies and differentiates the "normal" organizations from the "outliers". The use of this approach is a fundamental component of the methodology described herein.

CLAIMS:

8. A method in accordance with claim 1, wherein said report comprises at least one of: identification of data integrity issues; options for prevention of data validity problems which include the revision of individual item responses in the data provided and suggested documentation required to explain each data integrity issue that represents unusual clinical circumstances rather than an assessment error; identification of potential sources of assessment error and potential remedies for said assessment error; documentation prompts related to facility-level, chain-level, association-level, and community-level data integrity issues; and identification of in-service training and process needs.
13. A method in accordance with claim 8, wherein said report further comprises identification of chain-level data integrity issues.

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L38: Entry 1 of 2

File: USPT

Aug 12, 2003

DOCUMENT-IDENTIFIER: US 6606744 B1

TITLE: Providing collaborative installation management in a network-based supply chain environment

Detailed Description Text (386):

Frame relay systems use packet switching techniques, but are more efficient than traditional systems. This efficiency is partly due to the fact that they perform less error checking than traditional X.25 packet-switching services. In fact, many intermediate nodes do little or no error checking at all and only deal with routing, leaving the error checking to the higher layers of the system. With the greater reliability of today's transmissions, much of the error checking previously performed has become unnecessary. Thus, frame relay offers increased performance compared to traditional systems.

Detailed Description Text (500):

Frame relay systems use packet switching techniques, but are more efficient than traditional systems. This efficiency is partly due to the fact that they perform less error checking than traditional X.25 packet-switching services. In fact, many intermediate nodes do little or no error checking at all and only deal with routing, leaving the error checking to the higher layers of the system. With the greater reliability of today's transmissions, much of the error checking previously performed has become unnecessary. Thus, frame relay offers increased performance compared to traditional systems.

Detailed Description Text (544):

One embodiment of the present invention provides for comparison shopping by utilizing the customer's profile to prioritize the features of a group of similar, competing products, as shown in operation 5404 of FIG. 54. The competing products may or may not have been manufactured by competing business entities. More detail is provided in FIG. 56. First, in operation 5600, a customer's profile is developed. This profile may be developed from many sources including customer input, customer buying habits, customer income level, customer searching habits, customer profession, customer education level, customer's purpose of the pending sale, customer's shopping habits, etc. Such information may be input directly by the user, captured as a user uses the network, and may be downloaded periodically from a user's system. Next, in operation 5601, a plurality of items for purchase are displayed, from which the customer is allowed to select multiple, similar items, i.e. products or services to compare in operation 5602. Then, after a set of features of each item is determined in operation 5603, operation 5604 creates a hierarchy of the features of the items selected in accordance with the customer's profile. For example, as shown in FIG. 57, a comparison of features based on keywords taken from the customer's profile may be performed in operation 5701. The features would be preassociated with feature keywords in operation 5700. When a keyword input by the user matches a feature keyword, the feature is given priority in operation 5702. Features with feature keywords having multiple matches are given highest priority and ranked according to the number of matches in operation 5703. If no keywords match, the user's words could be analyzed using a thesaurus to find keyword matches, but these would be given lower priority in operation 5704. Then, in operation 5605 of FIG. 56, a comparison table is presented with the features